

Aside from a local cold wave at Flagstaff, Ariz., on the 11th, the only cold wave of the month occurred in eastern New Mexico on the 29th and 30th, when a low which was central over northeastern Arizona on the morning of the 29th divided, one center advancing rapidly to extreme southern Texas, the other remaining over southwestern Colorado. Cold wave warnings were not issued, but warnings of colder in New Mexico, with frost or freezing temperature, were distributed on the morning of the 29th.

Warnings of frost or freezing temperature which were generally verified were issued for portions of the whole of New Mexico, on the 6th, 7th, 8th, 10th, 11th, 12th, 15th, 21st, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st; for south-central and southeastern Arizona on the 11th, 21st and 29th, and for the valleys of western Colorado on the 21st, 22nd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st.—*J. M. Sherier.*

#### SAN FRANCISCO FORECAST DISTRICT

The month of March gave exceptionally high temperatures over all parts of the forecast district. At many stations in California the month was the warmest March of record and at some stations in the State it was both the warmest and driest March of record. Only one frost warning was required for California, but warnings of frosts and of freezing temperatures were issued on a number of days for Nevada, Idaho, Washington and Oregon, because high temperatures during March and the previous months forced vegetation to advance far beyond what it normally does at this season. The few storm warnings were restricted to the coast north of Cape Blanco; i. e., the Washington and Oregon coasts.

Among the outstanding facts noted in regard to the past winter are these: (1) No cold-wave warning was issued or necessary for any part of this forecast district and (2) the periods of general rains in California have followed in all instances the disintegration of the area of high pressure that normally is central some distance off the California coast. A notable instance of this occurred during the latter part of January. The barometer had stood high off our coast and the weather consequently remained dry during the time. Rains were general and heavy in the State while the barometer stood low over the region where it is normally high and ceased quickly after the pressure rose above normal. A similar instance occurred after the end of March. This will be referred to in the report for the month of April.—*E. H. Bowie*

627.41 (73)

#### RIVERS AND FLOODS

By H. C. FRANKENFIELD

The great ice gorge that had prevailed since January 8 in the Allegheny River of Pennsylvania gave way and passed down the river during the early evening of March 23. A special report on this gorge appears on page 106 in this REVIEW.

Moderate floods occurred during March in the rivers of the Southern States, except the lower Mississippi, the Illinois, and Wabash Rivers and their tributaries, the Grand and Saginaw systems of Michigan, and portions of the Maumee system of Ohio. There were also moderate local floods in the Sabine, Trinity, and Little Rivers of Texas. All of the floods were relatively unimportant, although only absence of heavy rains prevented a decided flood in the rivers of southern lower Michigan and northern Ohio. As it was, the melting of snow and ice

due to the high temperatures of the last decade of the month caused only moderate flood stages, and the losses were very small, although many business interests suffered considerable inconvenience for a short time.

Warnings of the floods were ample, and the aggregate losses were very small. The totals reported for the large territory east of the Mississippi River were only \$32,900, while those from the Texas floods were \$54,000, with a reported saving through the warnings of \$52,500.

The ice in the Missouri River in the vicinity of Bismarck broke up on March 21 and 22 and passed down the river with little damage. Ample warning of the event was issued. The crest stage at Bismarck was 14.6 feet, 0.4 foot below the flood stage.

In New England and eastern New York there was still on the ground an unusual amount of snow with a large water equivalent, excellent potential flood conditions which a few weeks later were resolved into actual ones of which mention will be made hereafter.

Owing to the comparative mildness of the last three consecutive winters the Connecticut River below East Hartford bridge has been continuously kept open for navigation, although on a few occasions the use of tugs was resorted to in order to maintain an open channel.

#### Flood stages during month of March, 1926

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC DRAINAGE					
	<i>Feet</i>			<i>Feet</i>	
Susquehanna: Oneonta, N. Y.	12	26	26	12.2	26
Neuse: Smithfield, N. C.	14	15	15	14.0	15
Peedee: Mars Bluff, S. C.	17	1	2	17.7	1 and 2
		16	16	17.0	16
Santee:					
Rimini, S. C.	12	(1)	21	14.7	2 and 4
Ferguson, S. C.	12	(1)	22	13.5	3
Oconee: Milledgeville, Ga.	22	31	(2)	22.3	31
Ocmulgee:					
Macon, Ga.	18	31	(2)	20.0	31
Abbeville, Ga.	11	4	6	11.3	5
Altamaha: Everett City, Ga.	10	3	8	10.1	4, 5, 6
		11	15	10.0	11 to 15
EAST GULF DRAINAGE					
Chattahoochee: Columbus, Ga.	20	31	(2)	20.0	31
Tombigbee: Lock No. 4, Demopolis, Ala.	39	11	18	43.9	15
Pearl:					
Jackson, Miss.	20	10	23	27.0	16, 17, 18
Columbia, Miss.	18	23	26	19.0	25
West Pearl: Pearl River, La.	13	14	(2)	15.7	27
GREAT LAKES DRAINAGE					
Maumee: Napoleon, Ohio.	10	(1)	(1)	13.6	Feb. 27
St. Joseph: Montpelier, Ohio.	10	(1)	1	12.4	Feb. 27
		24	24	10.0	Mar. 24
Saginaw: Saginaw, Mich.	19	25	28	20.1	26
Shiawassee: Chesaning, Mich.	17	23	23	17.3	23
Flint: Flint, Mich.	11	23	27	13.9	25
Pine: Alma, Mich.	7	22	26	7.5	23
Cass: Vassar, Mich.	14	22	26	15.6	24
Grand:					
Eaton Rapids, Mich.	5	(1)	3	5.3	1
		20	31	5.7	26
Lansing, Mich.	11	21	24	11.4	22
Grand Ledge, Mich.	7	(1)	3	8.4	2
		7	7	7.0	7
		19	28	9.0	21-22
Lowell, Mich.	15	24	24	15.0	24
Grand Rapids, Mich.	11	22	29	13.3	25
Red Cedar:					
Williamston, Mich.	6	2	2	6.0	2
		20	25	8.5	20
East Lansing, Mich.	8	20	26	9.7	20
MISSISSIPPI DRAINAGE					
Allegheny: Franklin, Pa.	15	(1)	5	24.0	Feb. 26
		8	8	15.2	Mar. 8
		21	23	20.6	22
Shenango: Sharon, Pa.	9	25	25	9.2	25
Tuscarawas:					
Gnadenhutten, Ohio.	9	(1)	1	13.5	Feb. 27
		24	25	9.7	Mar. 24
Coshocton, Ohio.	8	(1)	(2)	10.6	Feb. 27

1 Continued from last month.  
2 Continued at end of month.

\* Below flood stage, 8 a. m., Mar. 1.  
• Ice gorge.